WHAT IS CLAIMED

1. A method of noise removal from a digital image comprising providing a three-dimensional surface mapping representation of a at least one image color channel as a surface over a plane of the image, creating a virtual surface patch, placing the surface patch against topography in the three-dimensional surface mapping of the image so that the virtual surface patch intersects topography of the three-dimensional surface with respect to at least some pixels of an image surface region, adjusting height, tilt and curvature of the virtual surface patch with respect to the image surface to fit the surface, then estimating a palliative value for the image surface fitted with the virtual surface patch for at least one pixel within the area of the surface patch from the adjustment of the surface patch, and replacing the value of the at least one pixel in the at least one image color channel with the palliative value.

2. The method of claim 1 wherein the fit of the surface comprises an attempt to approximately represent the image surface.

3. The method of claim 1 wherein the image noise is moiré pattern noise.

4. The method of claim 1 wherein the adjustment of the height, tilt and curvature of the surface patch with respect the image surface in order to optimally represent the surface is accomplished by means of regression analysis to minimize the sums of the squared deviations between the virtual surface patch values and the image color channel surface values.

5. The method of claim 1 where the at least one color channel is a brightness channel approximating the human perception of brightness.

6. The method of claim 1 wherein the virtual surface patch fitted on the pixel brightness values comprises a plane.

7. The method of claim 1 wherein the virtual surface patch fitted on the pixel brightness value is described by two orthogonal parabolas.

8. The method of claim 3 wherein the adjustment of the height, tilt and curvature of the surface patch with respect the image surface in order to optimally represent the surface is accomplished by means of regression analysis to minimize the sums of the squared deviations between the virtual surface patch and the image brightness surface.

9. The method of claim 3 wherein the virtual surface patch is fitted on pixel color channel values and comprises a plane.

10. The method of claim 3 wherein the virtual surface patch is fitted on pixel color channel values and the virtual surface patch is described by two orthogonal parabolas.

11. The method of claim 4 wherein the virtual surface patch fitted on pixel color channel values and comprises a plane.

12. The method of claim 4 wherein the virtual surface patch is fitted on pixel color channel values and is described by two orthogonal parabolas.

13. The method of claim 8 wherein the virtual surface patch is fitted on pixel color channel values and comprises a plane.

14. The method of claim 8 wherein the virtual surface patch is fitted on pixel color channel values and is described by two orthogonal parabolas.

15. The method of claim 5 wherein the adjustment of the height, tilt and curvature of the surface patch with respect the image surface is performed to optimally

represent the surface is accomplished by means of regression analysis to minimize the sums of the squared deviations between the virtual surface patch and the three-dimensional surface mapping representation of an image brightness surface.

16. The method of claim 15 wherein the virtual surface patch is fitted on pixel brightness values and comprises a plane.

17. The method of claim 15 wherein the virtual surface patch is fitted on pixel brightness value and is described by two orthogonal parabolas.

18. The method of claim 1 wherein the virtual surface patch contains from to 9 to 170 pixels.